DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/6/2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,662,990 to Scari in view of USPN 4,911,969 to Ogata in view of USPN 3,948,702 to Theissen.

Scari discloses a glass cloth woven using a gripper loom, which is composed of warp yarns and weft yarns of the same glass yarn (same width) wherein a thickness of the glass cloth is 45 to 180 μm (see entire document including column 6, lines 4-38, column 9, lines 1-13, column 10, lines 4-30, and claims 1-9).

Scari does not appear to mention making the cloth with a thickness of 10 to 30 μm, but Ogata discloses that it is known in the woven glass fiber reinforced art to use a thickness of 30 to 100 μm (see entire document including the paragraph bridging columns 5 and 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make

the cloth with any suitable thickness, such as 30 μm, because it is within the general skill of a worker in the art to select a known cloth thickness on the basis of its suitability and desired characteristics.

Regarding the specifically claimed elongation rate, the glass cloth disclosed by the applied prior art inherently possesses the claimed elongation rate ratio because Theissen discloses that weaving a fabric with a gripper loom (equal low tension on the warp and weft) would result in no change in the yarn widths after the fabric is formed (column 3, lines 34-40 and column 5, lines 61-68).

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Scari illustrates a flattened fabric (Figure 1B) and specifically discloses that the fabric is flat (column 1, lines 51-60). In addition, Scari weaves the fabric with a gripper loom (column 8, line 64 through column 9, line 13) and Theissen discloses that a fabric is woven at a low tension with a gripper loom (column 3, lines 34-40 and column 5, lines 61-68). Therefore, regarding the claimed glass cloth being obtained by a flattening process under a low tension, it is the examiner's position that the article of the applied prior art is identical to or only slightly different

than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

Regarding claim 4, Scari discloses that an average diameter of filaments of the glass yarn may be 5 to 9 microns and the number of filaments may be between 5.5 to 136 tex (claim 1).

Regarding claim 5, Scari discloses that the cloth may comprise matrix resin (column 10, lines 4-10).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,662,990 to Scari in view of USPN 4,911,969 to Ogata in view of USPN 3,948,702 to Theissen as applied to claims 1, 4 and 5 above, and further in view of USPN 5,100,722 to Nakamura.

In the event that it is shown that Scari does not disclose the claimed glass filament diameter and/or number of filaments with sufficient specificity, Nakamura provides this conventional teaching showing that it is known in the art to use 50 to 1600 filaments having a diameter of 3 to 13 μm (column 1, lines 61-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use 50 to 1600 filaments having a diameter of 3 to 13 μm because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

5. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,236,777 to Inoguchi in view of USPN 4,911,969 to Ogata in view of anyone of USPN 5,662,990 to Scari or USPN 4,090,002 to Rosenblum in view of USPN 3,948,702 to Theissen.

Inoguchi discloses a glass cloth that is composed of warp yarns and weft yarns of the same glass yarn (same width) (see entire document including column 1, lines 10-21 the Examples).

Inoguchi is silent with regards to a specific glass cloth thickness, therefore, it would have been necessary and thus obvious to look to the prior art for conventional glass cloth thickness. Ogata provides this conventional teaching showing that it is known in the woven glass fiber reinforced art to use a thickness of 30 to 100 μm (see entire document including the paragraph bridging columns 5 and 6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the glass cloth 30 μm in thickness, motivated by the expectation of successfully practicing the invention of Inoguchi.

Inoguchi is silent with regards to a specific weaving method, therefore, it would have been necessary and thus obvious to look to the prior art for conventional weaving methods. Scari and Rosenblum provide this conventional teaching showing that it is known in the woven fiber reinforced art to weave the fabric by hand or by using a gripper loom (see entire documents including column 3, lines 8-14 of Rosenblum and column 9, lines 1-13 and claim 8 of Scari). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the glass cloth by hand or with a gripper loom, motivated by the expectation of successfully practicing the invention of Inoguchi.

Regarding the specifically claimed elongation rate, the glass cloth disclosed by the applied prior art inherently possesses the claimed elongation rate ratio because Theissen discloses that weaving a fabric with a gripper loom (equal low tension on the warp and weft) would result in no change in the yarn widths after the fabric is formed (column 3, lines 34-40 and column 5, lines 61-68).

Scari illustrates a flattened fabric (Figure 1B) and specifically discloses that the fabric is flat (column 1, lines 51-60). In addition, Scari weaves the fabric with a gripper loom (column 8, line 64 through column 9, line 13) and Theissen discloses that a fabric is woven at low tension with a gripper loom (column 3, lines 34-40 and column 5, lines 61-68). Therefore, regarding the claimed glass cloth being obtained by a flattening process under a low tension, it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article.

Regarding claim 5, Inoguchi discloses that glass cloth may comprise matrix resin (column 1, lines 10-21 and column 13, lines 31-35).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,236,777 to Inoguchi in view of USPN 4,911,969 to Ogata in view of anyone of USPN 5,662,990 to Scari or USPN 4,090,002 to Rosenblum in view of USPN 3,948,702 to Theissen as applied to claims 1 and 5 above, and further in view of USPN 5,100,722 to Nakamura.

Inoguchi is silent with regards to the specific number of glass yarn filaments per tow, therefore, it would have been necessary and thus obvious to look to the prior art for conventional number of glass yarn filaments. Nakamura provides this conventional teaching showing that it is known in the art to use 50 to 1600 filaments having a diameter of 3 to 13 μm (column 1, lines 61-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use 50 to 1600 filaments having a diameter of 3 to 13 μm motivated by the expectation of successfully practicing the invention of Inoguchi and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Response to Arguments

7. Applicant's arguments filed 11/6/2007 have been fully considered but they are not persuasive.

The applicant asserts that the applied prior art does not teach or suggest the claimed invention because modifying the fabric of Scari to have a thickness of 30 μm would result in a fabric having a large distance between adjacent glass yarns. The examiner respectfully disagrees. Firstly, the applicant does not claim a specific distance between adjacent glass yarns. Therefore, the features upon which applicant relies are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Secondly, although some structure may be implied by the claimed flattening process step, the applicant has failed to show that the claimed flattening process would necessarily result in a distance between glass yarns that is different than the distance between adjacent glass yarns taught by the applied prior art. It is noted that the current claims do not even mention the distance between yarns prior to the flattening process.

The applicant asserts that the applied prior art fails to teach or suggest the claimed glass cloth because the applied prior art fails to teach or suggest the claimed flattening process. The examiner respectfully disagrees. Scari illustrates a flat fabric (Figure 1B) and specifically discloses that the fabric is flat (column 1, lines 51-60). In addition, Scari weaves the fabric with a gripper loom (column 8, line 64 through column 9, line 13) and Theissen discloses that a fabric is woven at low tension with a gripper loom (column 3, lines 34-40 and column 5, lines 61-68). Therefore, regarding the claimed glass cloth being obtained by a flattening process under a low tension, it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article.

The applicant asserts that modifying the fabric of Scari to have a thickness of 30 μm would result in a fabric that lacks the claimed warp/weft yarn width ratio and the claimed warp/weft yarn elongation rate ratio. The examiner respectfully disagrees. The glass cloth disclosed by the applied prior art inherently possesses the claimed width ratio and elongation rate ratio because the yarns have the same width and Theissen discloses that weaving a fabric with a gripper loom (equal low tension on the warp and weft) would result in no change in the yarn widths after the fabric is formed (column 3, lines 34-40 and column 5, lines 61-68).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794